

The American Journal on Addictions, 15: 1–5, 2006
Copyright © American Academy of Addiction Psychiatry
ISSN: 1055-0496 print / 1521-0391 online
DOI: 10.1080/10550490600860387

Self-Harm and Suicidal Behavior in Women with Comorbid PTSD and Substance Dependence

Melanie S. Harned, PhD,¹ Lisa M. Najavits, PhD,^{2–4} Roger D. Weiss, MD^{3,5}

¹Department of Psychology, University of Washington, Seattle, Washington, USA

²Trauma Research Program, McLean Hospital, Belmont, Massachusetts, USA

³Department of Psychiatry, Harvard Medical School, Boston, Massachusetts, USA

⁴National Center for PTSD, VA Boston Healthcare System, Boston, Massachusetts, USA

⁵Alcohol and Drug Abuse Treatment Program, McLean Hospital, Belmont, Massachusetts, USA

This study examined the frequency, methods, and correlates of self-harm and suicidal behavior in 65 outpatient women with comorbid posttraumatic stress disorder (PTSD) and substance dependence (SD). Results showed high rates of suicide attempts, self-harm, suicidal ideation, and self-harm ideation for the prior three months. The most common methods were overdosing and cutting/scratching. Both PTSD and SD were perceived as contributing to self-harm and suicidal behavior. Women who had and had not engaged in such behavior differed in SD diagnoses and reasons for staying safe, but not in the number or type of traumatic experiences, age at first trauma, or substance abuse diagnoses. (Am J Addict 2006;15:xxx-xxx)

suicidal behavior. Indeed, two studies thus far have found that women with this dual diagnosis report a higher number of lifetime suicide attempts than women with either PTSD or SD alone.^{4,5} However, there has been little empirical attention to this topic, and no study thus far has specifically addressed self-harm behavior in a PTSD-SD sample. This article examined the frequency and methods of self-harm and suicidal behavior in women with this dual diagnosis. Several potential correlates of such behavior are also considered, including the number and type of traumatic experiences, age at first trauma, substance abuse and dependence diagnoses, and reasons for not engaging in self-harm or suicide.

INTRODUCTION

Posttraumatic stress disorder (PTSD) and substance dependence (SD) are each associated with increased rates of self-harm, suicidal ideation, and suicide attempts. In a study assessing young people with suicide attempts, the highest risk for attempting suicide was found among those suffering from PTSD, followed by those with substance use disorders (SUD).¹ Similarly, Ullman and Brecklin² found that both alcohol dependence and PTSD were associated with suicidal ideation and suicide attempts among a national sample of sexually assaulted women. Zlotnick and colleagues³ reported that PTSD and SUD each predicted self-mutilation among a sample of general psychiatric patients, even after controlling for the diagnosis of borderline personality disorder.

Such findings suggest that individuals with comorbid PTSD and SD may be at high risk for self-harm and

METHOD

Participants

Participants were 65 outpatient women with current PTSD and SD, as assessed by the Structured Clinical Interview for DSM-IV.⁶ Subjects with any type of SD (with the exception of nicotine dependence alone) were included and had to report active substance use within the past 30 days—a more stringent criterion than DSM-IV—to ensure that the sample was actively using substances. After providing informed consent, participants completed measures for this report as part of a larger battery on intake into a psychotherapy outcome study. Exclusion criteria were a history of psychotic disorder or mania, organic mental disorder, being mandated to treatment, or any characteristic that would interfere with assessment (eg, mental retardation or homelessness). Participants were recruited via ads and fliers. Self-harm and suicidal behavior were not entry criteria, and active suicidality was addressed by therapists during the course of the study (eg, creating safety contracts, providing emergency contact information for therapists).

Received March 3, 2005; revised May 12, 2005; accepted August 18, 2005.

Address correspondence to Dr. Harned, Department of Psychology, University of Washington, Box 351525, Seattle, WA 98195-5125. E-mail: mharned@brtc.psych.washington.edu.

Measures

Trauma

75 Respondents completed the Trauma History Questionnaire⁷ to assess lifetime history of traumatic events. The THQ assesses 23 traumatic events within three categories: crime (four items; eg, mugging or robbery), general disaster (13 items; eg, car accident or natural disaster), and
80 unwanted physical and sexual experiences (six items; eg, rape or physical assault). For each traumatic event, respondents reported lifetime occurrence (yes/no) and age of onset. The THQ has been shown to have high test-retest reliability over a two- to three-month period, and item
85 correlations ranged from .47 to 1.00, with a mean of .70.⁷

Self-Harm and Suicidal Behavior

A 13-item revised version of the Suicidal Behaviors Questionnaire⁸ was used to assess suicidal ideation (defined as “thoughts about killing yourself”), self-harm
90 ideation (“thoughts about hurting but not killing yourself”), self-harm (“intentionally harming yourself in a way that at the time was not considered by you or anyone else a suicide attempt”), and suicide attempts (“intentionally harming yourself in a way that at the time you or
95 someone else considered a suicide attempt”). Unless specified otherwise, the time period for all items was the prior three months. This timeframe was used to be consistent with the follow-up assessments which occurred at three-month intervals.

100 Two items assessed the frequency of suicidal and self-harm ideation on a five-point scale ranging from 1 (never) to 5 (very often [almost daily]). Two items assessed suicide attempts and self-harm (yes/no) and, if respondents reported engaging in one of these behaviors, how many
105 times each had happened. One item asked whether respondents had been drinking alcohol or using drugs immediately before or during a suicide attempt or self-harm episode (yes/no/not applicable). One item assessed the number of attempts by type of method used (eg, overdose, burning, or cutting/scratching) on a five-point scale
110 ranging from 0 (none) to 5 (too many to count). Four items assessed the chances of engaging in self-harm or attempting suicide at any point in the future and in the next six months (self-harm) or three months (suicide) on
115 a six-point scale ranging from 1 (none) to 6 (almost certainly [more than 90%]). One item assessed current plans for self-harm or suicide (no/yes, a vague plan/yes, a definite plan). Finally, two items were added at the end of the SBQ to assess the extent to which having PTSD or substance abuse made participants want to kill and harm
120 themselves. These items were rated on a four-point scale ranging from 0 (not at all) to 3 (greatly).

Reasons for Staying Safe

Participants also completed a 22-item revised version
125 of the Reasons for Living Inventory.⁹ The original

48-item RFLI assesses the importance of a variety of reasons for living, including survival and coping beliefs, responsibilities to family, child-related concerns, fear of suicide, fear of social disapproval, and moral objections. The revised version of the RFLI in the present study
130 assessed 11 potential reasons across these domains and also added items to assess reasons related to connections with treaters, beliefs in the efficacy of treatment, and recovery beliefs specific to PTSD and substance abuse. The RFLI was also adapted to query the same set of
135 reasons for not engaging in self-harm. All items were rated on a four-point scale, ranging from 0 (not at all) to 3 (greatly). Coefficient alphas in the present study were .81 ($n = 41$) for the suicide items and .92 ($n = 42$) for the self-harm items.
140

RESULTS

Sample Characteristics

The mean age of the sample was 37.20 ($SD = 8.87$). A majority of participants were Caucasian (73.8%), followed by African-American (20.0%), Puerto Rican
145 (3.1%), Mexican (1.5%), and other Hispanic (1.5%). Half (50.8%) had never been married, 16.9% were married, 23.1% were divorced, 4.6% were separated, and 3.1% were widowed. Of the participants, 43.1% were employed full-time, 26.1% were employed part-time, 6.2% were
150 students, 4.6% were retired/disabled, and 20.0% were unemployed. With multiple SD diagnoses possible, rates of current SD on the SCID were: alcohol (72.3%), cocaine (46.2%), cannabis (21.5%), opioid (13.8%), sedative-hypnotic (10.8%), amphetamine (10.8%), poly-
155 substance (4.6%), and hallucinogen (1.5%). On the THQ, participants reported an average of 1.76 crime traumas ($SD = 1.28$), 4.60 general disaster traumas ($SD = 2.57$), and 3.47 physical/sexual traumas ($SD = 1.74$). The average number of total traumas was 10.12
160 ($SD = 4.56$), and the average age at first trauma was 8.97 ($SD = 6.63$).

Self-Harm and Suicidal Behavior

Overall, 21 women (32.3%) had made a suicide attempt and/or self-harmed in the prior three months.
165 Nine women (13.8%) had only engaged in self-harm, seven (10.8%) had only attempted suicide, and five (7.7%) had both self-harmed and attempted suicide. Of these 21 women, 13 (61.9%) reported drinking alcohol or using drugs immediately before or during the suicide
170 attempt/self-harm episode. Table 1 includes additional data on the rates and methods of self-harm and suicidal behavior occurring in the past three months, participants' predictions about the likelihood of engaging in these behaviors in the future, and the perceived contribution of PTSD and SD to desires to engage in these behaviors.
175

TABLE 1. Rates of self-harm and suicidal behavior

Rates of self-harm and suicidal behavior in the past three months	<i>n</i>	%	<i>M</i>	<i>SD</i>
Suicidal ideation	47	72.3	2.98	1.01
Self-harm ideation	32	49.2	2.91	1.03
Suicide attempts	12	18.5	1.42	0.51
Self-harm	14	21.5	4.77	6.82
Methods of self-harm and suicide attempts in the past three months				
Drug/medication overdose	17	26.1	1.80	1.26
Cutting/scratching	13	20.0	1.62	0.87
Burning	5	7.7	1.40	0.55
Hitting self with object	5	7.7	1.60	0.55
Hanging	2	3.0	3.00	2.83
Jumping	1	1.5	1.00	n/a
Gun	0	0.0	n/a	n/a
Gas	0	0.0	n/a	n/a
Poison	0	0.0	n/a	n/a
Predictions about future self-harm and suicidal behavior				
Think will self-harm in the future	40	61.5	3.16	1.31
Think will self-harm in next six months	33	50.8	2.98	1.24
Think will attempt suicide in the future	35	53.8	2.97	1.22
Think will attempt suicide in next three months	22	33.8	2.86	1.04
Current plan for method of future self-harm or suicide	26	40.0	n/a	n/a
Contribution of PTSD and SD to self-harm and suicidal behavior				
Having PTSD makes you want to kill yourself	32	49.2	1.69	0.82
Having PTSD makes you want to harm yourself	20	30.8	2.05	0.89
Having SD makes you want to kill yourself	37	56.9	1.43	0.65
Having SD makes you want to harm yourself	22	33.8	1.45	0.67

Note. The *n* and % columns represent the number of subjects endorsing an item to any extent. The *M* and *SD* columns represent the degree of endorsement among those subjects who endorsed the item. PTSD = posttraumatic stress disorder. SD = substance dependence.

Group Comparisons

Women who had ($n = 21$) and had not ($n = 44$) self-harmed and/or attempted suicide in the past three months were compared using independent sample *t*-tests and chi-square tests. A total of 47 comparisons were conducted of which seven were significant. Per Table 2, significant differences between the two groups were found on four of the 22 RFLI items and three of the ten SCID substance dependence diagnoses. The two groups did not differ on the number or type of trauma experiences, age at first trauma, substance abuse diagnoses, or any demographic variables (ie, age, race, marital status, employment status).

DISCUSSION

This study is the first to examine the frequency and methods of self-harm and suicidal behavior among women with comorbid PTSD and SD. Nearly one-quarter

(21.5%) of the women in our sample engaged in self-harm behavior in the past three months, a rate comparable to lifetime prevalence rates of self-harm (25–26%) reported in studies of women with substance use disorders.^{10,11} The rate of suicide attempts in the prior three months (18.5%) was lower than previous studies of PTSD-SD patients that obtained rates from 33–79%;^{4,5} however, these prior studies assessed lifetime rather than recent suicide attempts. Rates of suicidal (72.3%) and self-harm (49.2%) ideation during the prior three months were notably high in this sample, as were rates of predicted future self-harm (61.5%) and suicide attempts (53.8%). Finally, comparable to previous studies of women with substance use problems,¹¹ the most common methods of self-harm and suicidal behavior in the present study were overdosing (26.1%) and cutting/scratching (20.0%).

The present results also indicate that PTSD and SD were each perceived as contributing to self-harm and suicidal behavior, as many women indicated that

TABLE 2. Group comparisons

	Self-harm and/or suicide attempt (<i>n</i> = 21)		No self-harm or suicide attempt (<i>n</i> = 44)		<i>T</i>	df	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Reasons for living inventory							
Concerns about children (suicide)	1.17	1.47	2.41	1.19	2.89 ^{†**}	42	0.93
My wish to survive (suicide)	1.75	1.07	2.29	0.87	2.14*	61	0.55
My belief that I can cope (suicide)	1.35	0.93	1.92	1.06	2.06*	61	0.57
My belief that I can cope (self-harm)	1.29	1.21	1.99	1.10	2.10*	54	0.61
SCID substance dependence diagnosis	<i>n</i>	%	<i>n</i>	%	χ^2	df	Cohen's <i>w</i>
Alcohol dependence	19	95.0	28	65.1	6.43*	1	0.63
Opioid dependence	0	0	9	20.9	4.88*	1	0.51
Polysubstance dependence	3	15.0	0	0	6.77 ^{†**}	1	0.42

Note. Only significant results are reported in this table.

p* < .05; [†]*p* < .01.

215 having PTSD and substance abuse made them want to
kill and harm themselves. In addition, 61.9% of the
women who had made a suicide attempt and/or
harmed themselves in the prior three months reported
drinking alcohol or using drugs immediately before or
220 during the episode. These findings are consistent with
research indicating that self-harm and suicide attempts
often regulate overwhelming internal experiences, such
as unwanted emotions, flashbacks, and unpleasant
thoughts.¹²

225 Some differences were found for women who had
versus had not engaged in self-harm and/or suicidal
behavior. Specifically, women with a recent history of
self-harm and/or attempted suicide were more likely to
have diagnoses of alcohol dependence and polysubstance
230 dependence and less likely to meet criteria for opioid
dependence. In addition, women who had not engaged
in such behaviors were more likely to report that concerns
about children, a belief in their ability to cope, and a wish
to survive helped them to stay safe. These results are
235 consistent with research indicating that similar reasons
for living best differentiate suicidal and nonsuicidal
groups.⁹

Limitations of this study include the use of a self-
report measure of self-harm and suicidal behavior, the
240 sampling of treatment-seeking research volunteers who
may not be representative of the larger dual diagnosis
population, a relatively small sample of suicidal and/or
self-harming patients, assessment at only one point in
time, and the lack of a control group.

245 These findings highlight the need for clinicians to
attend to these elevated risk levels when working with
patients with comorbid PTSD and SD, including con-
ducting routine risk assessments and developing a specific

plan to promote safety. Future research would benefit
from examining other potential correlates of such 250
behavior (eg, coping style), as well as mechanisms (eg,
emotion dysregulation) that may explain the relationship
among these co-occurring problems.

*This study was supported by grants K02-DA00400,
R01-DA08631, K02-DA00326, and R01-DA15968 255
(Dr. Najavits) from the National Institute on Drug Abuse,
Bethesda, Md.*

REFERENCES

1. Wunderlich U, Bronisch T, Wittchen HU. Comorbidity patterns in
adolescents and young adults with suicide attempts. *Eur Arch Psy-* 260
chiatr Clin Neurosci. 1998;249:87–95.
2. Ullman SE, Brecklin LR. Sexual assault history and suicidal beha-
vior in a national sample of women. *Suicide Life Threat Behav.*
2002;32:117–130.
3. Zlotnick C, Mattia JJ, Zimmerman M. Clinical correlates of self- 265
mutilation in a sample of general psychiatric patients. *J Nerv Ment*
Dis. 1999;187:296–301.
4. Moylan PL, Jones HE, Haug NA, Kissin WB, Svikis DS. Clinical
and psychosocial characteristics of substance-dependent preg-
nant women with and without PTSD. *Addict Behav.* 2001;26: 270
469–474.
5. Green B, Trauma History Questionnaire (adapted from the DSM-IV
field trial High Magnitude Stressor Questionnaire). In: Stamm BH,
Varra EM, eds. *Measurement of Stress, Trauma, and Adaptation.* 280
Lutherville, Md.: Sidran Press;1996:366–368.
6. Spitzer RL, Williams JBW, Gibbon M. *Structured Clinical Interview* 275
for DSM-IV-Patient Version. New York: Biometrics Research Insti-
tute; 1997.
7. Linehan MM. *Suicidal Behaviors Questionnaire.* Seattle, Wash.:
University of Washington; 1981. Unpublished manuscript.

- 285 9. Linehan MM, Goodstein J, Nielsen SL, Chiles J. Reasons for staying alive when you are thinking of killing yourself: the Reasons for Living Inventory. *J Consult Clin Psychol.* 1983;51:276–286.
10. Evans C, Lacey JH. Multiple self-damaging behavior among alcoholic women: a prevalence study. *Br J Psychiatry.* 1992;161:643–647.
11. Swift W, Copeland J, Hall W. Characteristics of women with alcohol and other drug problems: findings of an Australian national survey. *Addiction.* 1996;91:1141–1150. 290
12. Brown MZ, Comtois KA, Linehan MM. Reasons for suicide attempts and nonsuicidal self-injury in women with borderline personality disorder. *J Abnorm Psychol.* 2002;111:198–202. 295